

A. Mehta

Re-Run

Page 1 of 6
#12
Am
5/19/03

ENTERED



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/623,034

DATE: 05/19/2003

TIME: 11:16:29

Input Set : N:\vernette\US09623034.raw

Output Set: N:\CRF4\05192003\I623034.raw

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1 <110> APPLICANT: Klessig, Daniel F.
2      Zhang, Shuqun
3 <120> TITLE OF INVENTION: METHODS OF USING A PATHOGEN-ACTIVATABLE
4      MAP KINASE TO ENHANCE DISEASE RESISTANCE IN PLANTS
5 <130> FILE REFERENCE: RUT98-0073
6 <140> CURRENT APPLICATION NUMBER: US/09/623,034
7 <141> CURRENT FILING DATE: 2000-08-24
8 <150> PRIOR APPLICATION NUMBER: PCT/US99/03882
9 <151> PRIOR FILING DATE: 1999-02-23
10 <150> PRIOR APPLICATION NUMBER: 60/075,685
11 <151> PRIOR FILING DATE: 1998-02-24
12 <160> NUMBER OF SEQ ID NOS: 2
13 <170> SOFTWARE: FastSEQ for Windows Version 3.0
15 <210> SEQ ID NO: 1
16 <211> LENGTH: 1725
17 <212> TYPE: DNA
18 <213> ORGANISM: Nicotiana tabacum
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22      atgcaaatat ggggtgcggt ggaggtcaat tccctgattt tccctcggtt ttaactcacg      180
23      gcggacaata tgtacagttt gatatttttg gtaatttctt tgagatcact accaagtatc      240
24      gtccctctat tatgcctatt ggtcgtgggt cttatggaat tgtctgctcg gtgttggaata      300
25      cggagctgaa tgagatgggt gcagttaaga aaatcgcgaa tgcgtttgat atttacatgg      360
26      atgctaagag gactctccgt gagattaagc tctcccgcca tttagaccat gaaaatgtaa      420
27      ttggtttaag agacgtgatt cctccaccct tacgaaggga gttttctgat gtttacattg      480
28      ctactgaact catggatact gatcttcacc aaataattag atccaaccaa ggtttatcag      540
29      aggatcactg tcagtacttc atgtatcagc tctccgtgg cctaaaatac atacattccg      600
30      cgaatgttct tcatagagat ctcaaaccga gcaacctttt ggtaaatagca aattgtgatc      660
31      ttaagatatg tgactttggt cttgctaggc caaacataga gaacgagaat atgacggaat      720
32      atgttgtaac cagatggtag agggcaccag agcttttggt gaactcttca gattacactg      780
33      ctgctataga tgtttggtct gtcggttgca ttttcatgga acttatgaat agaaaacctt      840
34      tgtttggtgg aaaagatcat gtacatcaaa tacgcttggt aaccgagctt cttggcacc      900
35      caacagaagc tgatcttggc ttctccaaa atgaagatgc aaagagatac atcagggaac      960
36      tcccacaaca tctcgccag cagtttagcag aagttttccc tcatgtgaac ccattggcta      1020
37      ttgatcttgt cgataaaatg ttgacattcg atcctactag aagaattaca gttgaggaag      1080
38      cattagatca tccctacctt gcaaagctcc acgatgcagg tgacgaaccg atctgcctg      1140
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43      aaggcagcct tcaatgtgca gccatctata tatctttttt attttttatt tttattacgg      1440
44      tgctgtctga gctagcttgt gggcaccttg attatttcat tggatattgc tacctccgc      1500
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45      cagcacaacc atttatatct cccactcatt cttatgattt gtatcttggtg tgttggtattc      1560
46      agctaaaacc aataatggca ggcticctcaa caatcataga cacatcatct atgcagaatt      1620
47      caagtttctc ttttccaact tcatcttctt cattcatgac ttcttcattc actgaacttc      1680
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52 <212> TYPE: PRT
53 <213> ORGANISM: Nicotiana tabacum
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58      20          25          30
59      Gly Asn Phe Phe Glu Ile Thr Thr Lys Tyr Arg Pro Pro Ile Met Pro
60      35          40          45
61      Ile Gly Arg Gly Ala Tyr Gly Ile Val Cys Ser Val Leu Asn Thr Glu
62      50          55          60
63      Leu Asn Glu Met Val Ala Val Lys Lys Ile Ala Asn Ala Phe Asp Ile
64      65          70          75          80
65      Tyr Met Asp Ala Lys Arg Thr Leu Arg Glu Ile Lys Leu Leu Arg His
66      85          90          95
67      Leu Asp His Glu Asn Val Ile Gly Leu Arg Asp Val Ile Pro Pro Pro
68      100         105         110
69      Leu Arg Arg Glu Phe Ser Asp Val Tyr Ile Ala Thr Glu Leu Met Asp
70      115         120         125
71      Thr Asp Leu His Gln Ile Ile Arg Ser Asn Gln Gly Leu Ser Glu Asp
72      130         135         140
73      His Cys Gln Tyr Phe Met Tyr Gln Leu Leu Arg Gly Leu Lys Tyr Ile
74      145         150         155         160
75      His Ser Ala Asn Val Leu His Arg Asp Leu Lys Pro Ser Asn Leu Leu
76      165         170         175
77      Val Asn Ala Asn Cys Asp Leu Lys Ile Cys Asp Phe Gly Leu Ala Arg
78      180         185         190
79      Pro Asn Ile Glu Asn Glu Asn Met Thr Glu Tyr Val Val Thr Arg Trp
80      195         200         205
81      Tyr Arg Ala Pro Glu Leu Leu Leu Asn Ser Ser Asp Tyr Thr Ala Ala
82      210         215         220
83      Ile Asp Val Trp Ser Val Gly Cys Ile Phe Met Glu Leu Met Asn Arg
84      225         230         235         240
85      Lys Pro Leu Phe Gly Gly Lys Asp His Val His Gln Ile Arg Leu Leu
86      245         250         255
87      Thr Glu Leu Leu Gly Thr Pro Thr Glu Ala Asp Leu Gly Phe Leu Gln
88      260         265         270
89      Asn Glu Asp Ala Lys Arg Tyr Ile Arg Gln Leu Pro Gln His Pro Arg
90      275         280         285
91      Gln Gln Leu Ala Glu Val Phe Pro His Val Asn Pro Leu Ala Ile Asp
92      290         295         300
93      Leu Val Asp Lys Met Leu Thr Phe Asp Pro Thr Arg Arg Ile Thr Val
94      305         310         315         320

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95	Glu	Glu	Ala	Leu	Asp	His	Pro	Tyr	Leu	Ala	Lys	Leu	His	Asp	Ala	Gly
96					325					330					335	
97	Asp	Glu	Pro	Ile	Cys	Pro	Val	Pro	Phe	Ser	Phe	Asp	Phe	Glu	Gln	Gln
98					340					345					350	
99	Gly	Ile	Gly	Glu	Glu	Gln	Ile	Lys	Asp	Met	Ile	Tyr	Gln	Glu	Ala	Leu
100					355					360					365	
101	Ser	Leu	Asn	Pro	Glu	Tyr	Ala									
102					370					375						

RAW SEQUENCE LISTING ERROR SUMMARY
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Seq#:1; Line(s) 40,41,42,43,44,45,46,47,48

VERIFICATION SUMMARY

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